

## TRAFFIC MONITORING TOOLS TO THE SITE

Luminița GIURGIU, Ioan MUNTEANU, Ilie GLIGOREA

“Nicolae Balcescu” Land Forces Academy, Sibiu, Romania  
luminita.giurgiu.a@gmail.com

**Abstract:** *Living in a world that inspires and exhales bits, the presence of a site, whether personal or institutional, is mandatory. But is it just enough to exist in the online space? How can we measure, in particular, internet success and after all, are we reaching the target audience? Whether we are talking about a web page for presenting our own business or about an online business itself, knowing the impact it has on the net is just as important. This is called audience, and to measure it there are some instruments that are to be discussed and analyzed in this article. There will be references on the Land Forces Academy's official site.*

**Keywords:** traffic monitoring, monitoring tools

### 1. Introduction

To bring visitors to a website is an objective that justifies its existence. When visitors start coming, it is necessary to see if their number evolves, what content on the site attracts, what works and what does not, what are the daily performances. All these things can be done with a platform that provides solutions for tracking daily visits and other useful statistics to make work more efficient.

Before knowing *how* to measure, it is necessary to know *what* to measure and to set certain objectives. What does the site represent, what is its intention? Information, selling, trafficking?

The objectives have to be divided into material goals related to benefits (sales, profit, the number of additional information requested through the site, the number of visits to the company's physical headquarters, etc.) and non-material objectives related to visitor engagement (number of searches on specific engines, number of pages visited within the site,

number of registered users, etc.).

And if the *what* has been found, next follows the *how*, namely the tools:

- First - specific analytical programs such as Google Analytics, Statcounter, Histats, AWStats, Clicky, Open Web Analytics, KISSmetrics, etc.
- Second - there is always Google or Bing, both can be used to access data that the two search engines have about their own site.

### 2. Indicators to be considered

#### 2.1. Quality visitors number

Traffic does not only translate into a total number of "n" visitors, but also in their quality, more precisely, to the extent of their interest in what the site has to offer, the potential of visitors to become customers. This could be known analyzing the traffic sources as following:

Traffic from unpaid sources - traffic is generated by those who access the webpage following an Internet search. As soon as the

site has a minimum traffic, it can begin monitoring and categorizing the used keywords. For example, if the name of the company is highly sought after, it should be considered and called a category of words covering all the variations that its name may have, while the other categories should be related to the industry in which it operates. Then they will be used to find out how much the company is looked for on the web through specific programs or engines.

## **2.2. The site's usefulness**

The question is whether the web page has an impact, if it is useful. Not all visitors are looking for something to buy. Some might want to know more about the company and its products. So, if only sales are tracked, precious information on the interest of potential consumers may be out of sight.

But one of the best ways to measure internet success is gain, the benefits it brings. Using, for example, Google Analytics, the clicks or clicks on the purchase buttons, if the site sells online, can be monitored. When these data are related to those keyword categories and other site-related information, the utility panel becomes even more complete. For example, if 10% of visitors come from fashion-related forums and only 1% from card-related formats, it's obvious which one counts more for that website.

To track the rate of appreciation, the categories of words that will suggest what kind of visitors the site finds valuable, can be used. There are also some indicators to this effect:

The period spent on the site and the number of pages viewed - these two indicators are usually related. This way, it can be seen how long visitors spend on the site. For example, if they stop at the page for at least 30 seconds, it is likely that the content is also read. Then, if they access at least two pages per visit, it means that visitors find the site interesting enough to find out even more.

The traffic variation rate, referring to the number of visitors leaving the site shortly after they visited it because it does not contain the information they needed.

RSS entries - these are very useful for a blog. If a visitor reaches a particular page after a search or reference, reads an article, and then enters, it is a clear proof that the information on the blog is very important and useful to him. Enrollments can be tracked with Google Analytics.

## **2.3. Measuring performance on search engine**

Applying to the keyword categories again, it can be analyzed how well the site is ranked within search engines and whether this is a way for visitors to reach that web page. Both Google and Bing have tools to show how often the site was found through search engines, the number of clicks on the site, the number of cliques inside the site, the most searched keywords which generates traffic. Knowing these things, it is possible to outline an idea of the ranking of the site's search engine rankings and to what extent visitors consider search results important.

## **3. Traffic monitoring**

Traffic monitoring is essential for any site owner. With the tools dedicated to this purpose information like following could be found out:

- how much traffic does Google send;
- how much traffic comes from other search engines;
- how much traffic comes from other sites;
- how long users stay on the site;
- what pages users visit;
- on which links users click on;

and other important statistics that can help to improve both website performance in search engines and user retention (keeping them on site for as long as possible) for conversion (turning them into customers or future customers). Traffic measurement tools to the website are services offered by various online companies, free of charge or for a fee [1].

### **3.1. Google Analytics evolution**

The Google Analytics story began in 2005 when Google bought the Urchin web analytics company. A year later, Google Analytics, a free Urchin-based tracking

solution, appears. For a long time, Google has retained the Urchin base product that it marketed as a premium solution. But the latter has also disappeared, with Google Analytics Premium taking its place. Since its launch in 2006, Google has continuously updated Analytics, data reported, and data synchronization features. Major updates, however, that affected the tracking codes were three so far:

The first version of the tracking code and the first version of Google Analytics was the default tracking code of the type:

```
<script src="http://www.google-analytics.com/urchin.js" type="text/javascript">
</script>
<script type="text/javascript">
  _uacct = "UA-123123-1";
  urchinTracker();
</script>
```

This version of code is also known as urchin.js from the file that helps with data collection. When AJAX technology and JavaScript began to invade sites, data collection became partial, and Google Analytics was not able to understand how actions happen in areas loaded with Ajax. Uploading this code was also a problem of speed and in some cases the browser did not load it anymore. For this reason, the script code was added as the last script in the site as close to `</body>`.

Version 2 appeared in order to solve the Ajax side and script loading speed; Google launched Google Analytics version 2 in 2007. This second code has a different form from the previous version, and also a new file with collection functions.

If in version 1, the file was urchin.js, in version 2, the file was named ga.js and another way of defining the Analytics account and collecting user data and cookie data. The traffic code was as follows:

```
<script type="text/javascript">
  var gaJsHost = (("https:" == document.location.protocol) ? "https://ssl." : "http://www.");
  document.write(unescape("%3Cscript src='" + gaJsHost + "google-analytics.com/ga.js'
  type='text/javascript'%3E%3C/script%3E"));
</script>
<script type="text/javascript">
  try {
    var pageTracker = _gat._getTracker("UA-12345-1");
    pageTracker._trackPageview();
  } catch(err) {}
</script>
```

In May 2010, Google offered an update on

the tracking code, but without changing the collection protocol, ga.js. Some consider this update as version 3 of Analytics, but in reality being just a change at the collection level. This new code is also known as the asynchronous version of the Analytics code or simply async, bringing the desired load speed. It is also the first version of Analytics tracking code that is recommended to be placed at the top of the page as close to `</head>`. The tracking code looks like the following and is easily recognizable by the `_gaq` collection variable. This version is currently the current version of the tracking code for the "classic" version of Google Analytics:

```
<script type="text/javascript">
  var _gaq = _gaq || [];
  _gaq.push(['_setAccount', 'UA-XXXXXX-YY']);
  _gaq.push(['_trackPageview']);
  (function() { var ga = document.createElement('script'); ga.type = 'text/javascript'; ga.async = true;
  ga.src = ('https:' == document.location.protocol ?
  'https://ssl' : 'http://www') + '.google-analytics.com/ga.js';
  var s = document.getElementsByTagName('script')[0].parentNode.insertBefore(ga, s); })();
</script>
```

In May 2012, Google announced the beta-version, audience-based remarketing with Analytics. In order to do this, a change in tracking code is required. More exactly, the piece of code:

```
ga.src = ('https:' == document.location.protocol ? 'https://ssl' : 'http://www') + '.google-
analytics.com/ga.js';
```

is replaced by this piece of code:

```
ga.src = ('https:' == document.location.protocol ? 'https://' : 'http://') +
'stats.g.doubleclick.net/dc.js';
```

The major Google Analytics update comes with the third communication protocol called Universal Analytics (UA). It was officially announced in October 2012, but the public beta was offered for testing in March 2013. Since then, Analytics has been continually improving, and improvements are currently being made in both versions. If from version 1 to version 2 everything was done through a code change and an extra-tracking update, switching from version 2 to version 3 automatically takes place through a migration system. Data is collected differently, and migration is not only at code level, but also at server level. Changes are major comparing to version 2, and from a technical point of view, it is a completely redesigned collection.

The UA code looks like the following:

```

<script>
(function(i,s,o,g,r,a,m){(l['GoogleAnalyticsObject']=r)[r]=function(){
  (l[r].q=l[r].q||[]).push(arguments)},l[r].l=1*new Date(),a=s.createElement(o),
  m=s.getElementsByTagName(o)[0],a.async=1,a.src=g,m.parentNode.insertBefore(a,m)
})(window,document,'script','//www.google-analytics.com/analytics.js','ga');

ga('create', 'UA-XXXX-Y', 'auto');
ga('send', 'pageview');

</script>

```

The most important improvements in the UA are those that include the insertion of the own data and the linking of Analytics to own Customer Relationship Management systems or business intelligence systems. Also important is the promise to offer unique data about users who use multiple devices to access the same site.

Like the asynchronous version, the AU code is added before </ head>.

### 3.2. Google Analytics key reports

The most important Google Analytics metrics that should be periodically reviewed to stay up-to-date with the status of the site are grouped into five major categories: Real Time, Audience, Acquisition, Behavior, Conversions. Each of these categories includes a number of subcategories with important customer data. Real Time - gives access to the most up-to-date and complex data on the site's situation by looking at: Location (where geographically active users are on the site), Traffic sources (how many have entered from social media or other sources) How many active users are currently on the site, From what devices they came in (desktop or mobile).

The Audience category - provides significant data about audience and its specificity. These include: Demographics (age, gender), Audience interests (what topics they prefer to read), Location, Behavior (how many loyal users, how many visitors), and the Device used [2].

Acquisition - this category of indicators looks at how traffic is getting on the site, analyzing and providing information about how visitors arrive on the site, what are the sources of the traffic, which promotion channels are the most effective and what to do to improve traffic for the less popular (For example Top Channels

that bring the most traffic over a period of time - organic, social, direct, paid advertised, etc. and Graph with number of users and conversions.

The Behavior category - provides detailed information about user behavior: statistics about existing articles that were most read, how much users spent on average per item, and what keywords they used to reach the content in question [3].

Conversions category - contains four subcategories: Goals - shows the status of the set goals for the business; Ecommerce - is for online stores and provides detailed information about conversion rate, transactions, average value of products purchased on the site, unique purchases, quantity of products sold, etc.; Multi-channel funnel - provides a complete view of the visitor's travel on the site and what actions turn simple visitors into buyers (eg reading a blog post, downloading a guide, subscribing to a newsletter); Attribution - shows how different types of marketing affect conversions (paid advertising, e-mail marketing, content marketing, etc.)[1].

## 4. Google Search Console

Google Search Console (GSC) is a toolkit that helps monitor real-time those aspects of the site that have a major impact on search efficiency (SERP) of the world's largest search engine – Google [4]. GSC is divided into 7 sections. I chose to address in this article only four of these, namely those outlined below and with reference to the Land Forces Academy website. These are essential in my approach, others are somewhat obvious in terms of functionality.

### 4.1. Search Appearance

This section offers exactly how our site will look in search results. Each of its six subsections is about how we can improve our relationship with users:

Structured Data - better data structure from the site will help Google analyze and index our content faster and better.

This type of structured data takes the form of rich snippets (see figure 1).

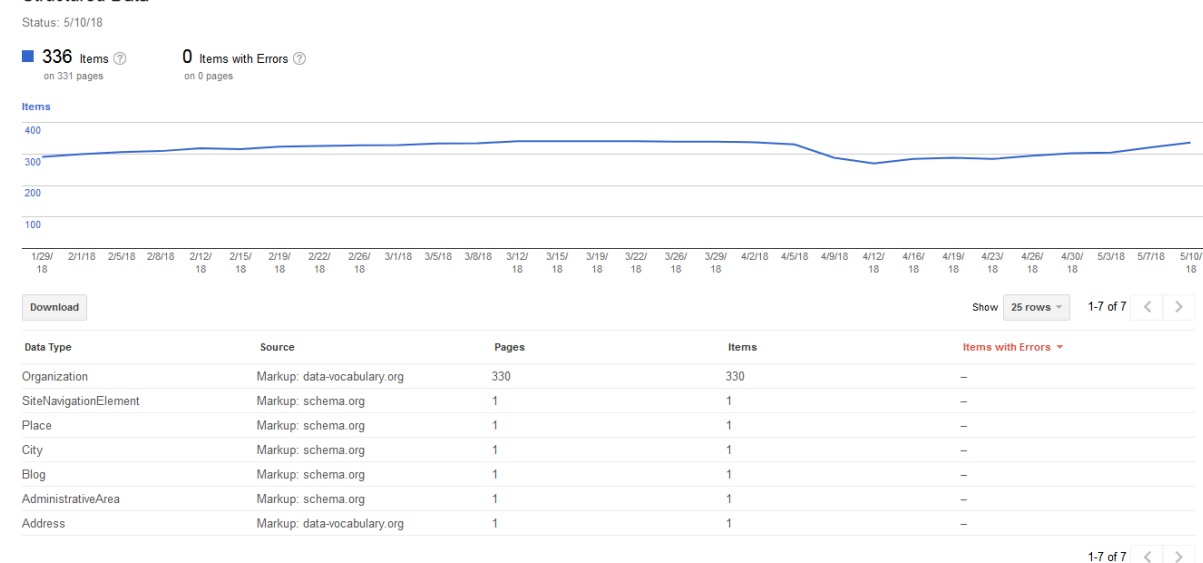


Figure 1: Structure Data Section

Informational cards - work similar to rich snippets but are more visually appealing. HTML Enhancements - Here, Google makes a complete report available based on the latest indexing of our site. From this report, we can find valuable information

about: Duplicate content on the site, Metadata status - if missing, duplicate, too long or too short, Status Title Tags - if missing, duplicate, too long or too short, Content status non-indexable - if any (see figure 2).

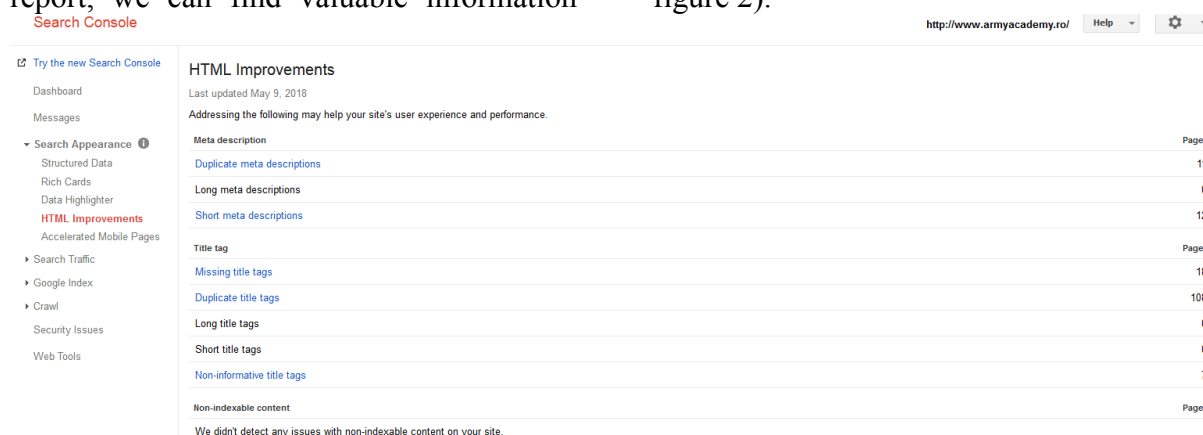


Figure 2: HTML Enhancements Section

## 4.2. Search traffic

This section is the one that deepens the essentials for positioning the site on Google. Here we can find important data about the keywords we rank with, external links, internal links, possible penalties, and more. It is perhaps the most important section for SEO strategy.

Search Statistics - offer a complete and extremely useful report on site traffic. The

most important metrics here are: number of clicks per keyword, impressions per keyword, click through rate, average positions for each word within a given timeframe; it is also a detailed report of the source of traffic by: Country of origin, Device - mobile, desktop, tablet, Search type - if traffic came from web searches, pictures or video statistics (see figure 3).

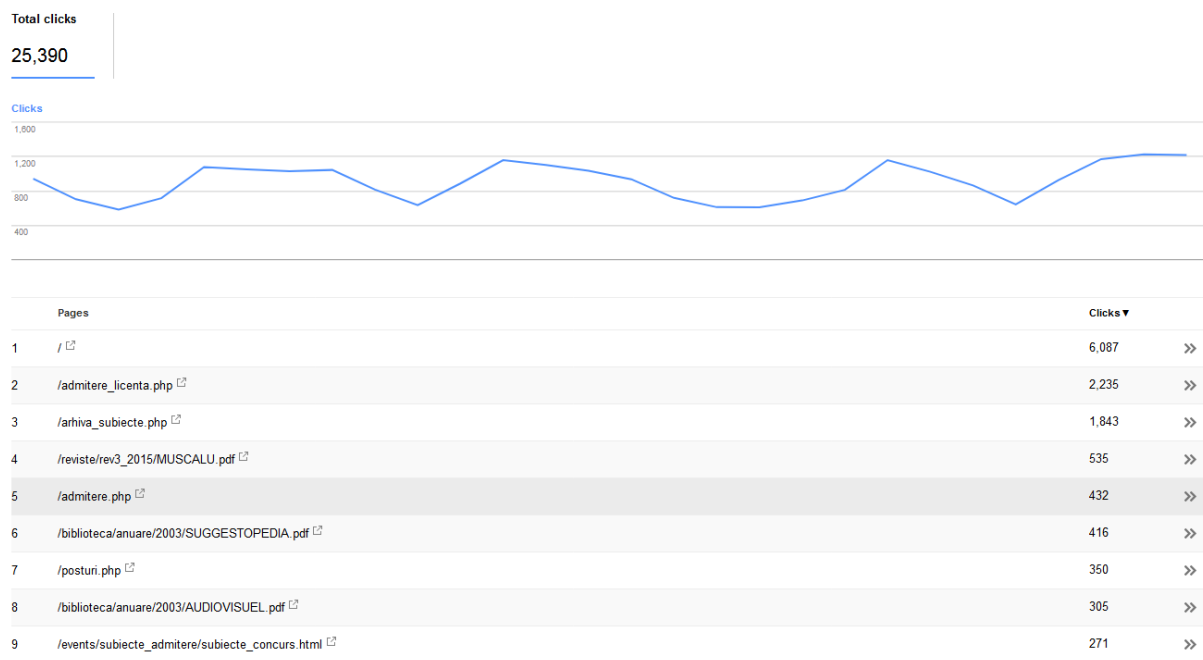


Figure 3: Clicks per page in Search Analytics

Links to the site - based on the analysis of existing ones, one can learn how to get

quality links (see figure 4).

Links to Your Site

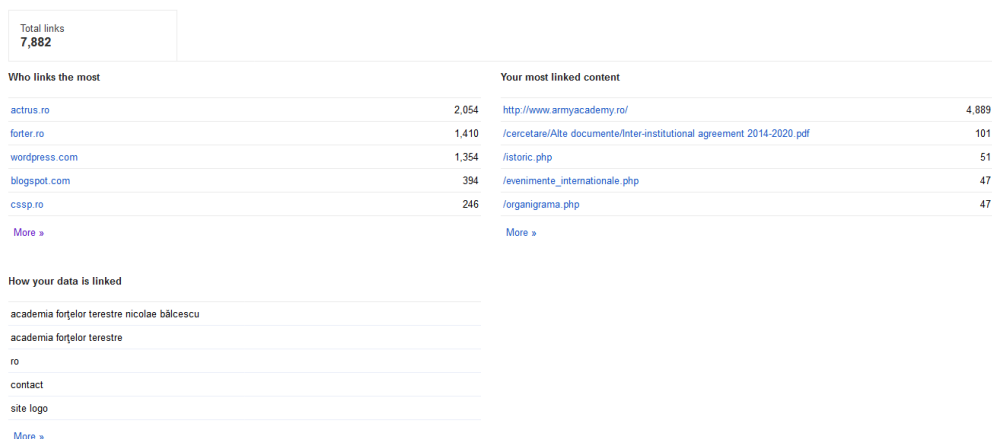


Figure 4: Clicks Links to Your Site Section

### 4.3. Index Google

All aspects of the indexing and crawling of the site and the related keywords are found in this section.

Indexing Status - indicates index pages, blocked pages, and pages that have been

deleted. It is the right place where to accurately check the situation of each URL in the site and take the necessary steps to solve possible indexing problems (see figure 5).

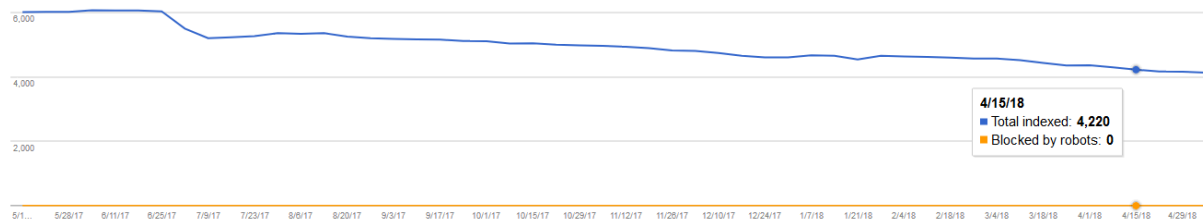


Figure 5: Index Status - data from the last year

If indexing issues are discovered, the first thing to do is to analyze the robots.txt file and to verify the accuracy of the sitemap.

#### 4.4. Crawl

This is the most technical section of Google Search Console that provides Googlebot Crawl Rate, Errors, Sitemap, Robots, URL Parameters, and Fetch as Google. An error-free section can lead to a significant increase in positions in Google's results.

Crawl Statistics - the number of crawled pages per day, downloaded kilobytes per day, and download time (in milliseconds) are the three types of reports found in this section. It is important that the graphs for these three metrics are relatively constant. If major deviations from the trend are observed, it must be immediately verified and corrected (see figure 6).

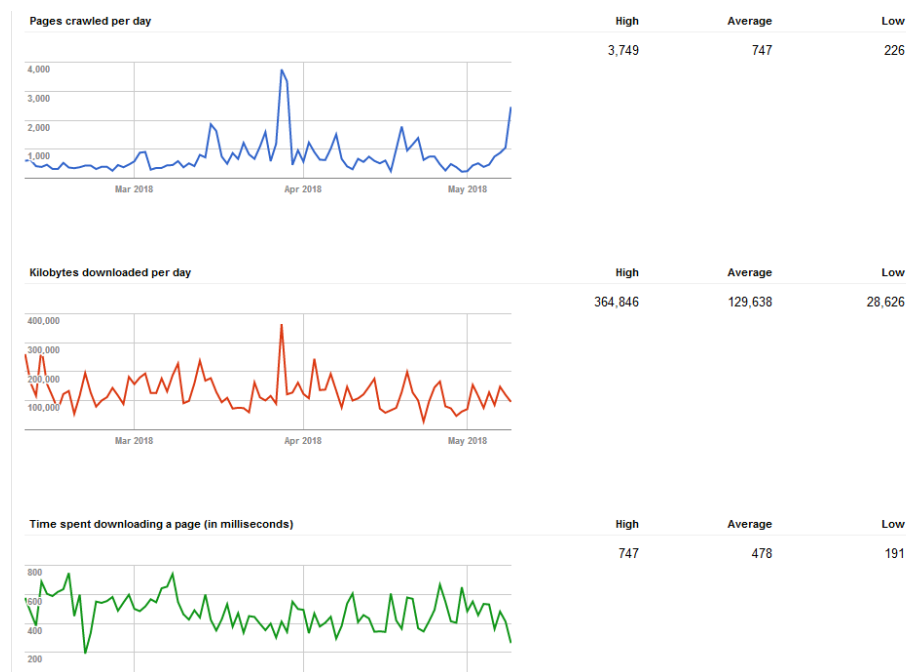


Figure 6: Crawl statistics section

The advantages of implementing Google Search Console tool to monitor and analyze Land Forces Academy's site are quite obvious [5]. It is important to invest time, to understand each section and, having reports on SEO site health, to turn this tool into a competitive advantage for our business.

#### 5. Conclusions

So when it comes to monitoring a site's activity, it is important for it to be recorded on the search engines and a specific analysis program to be accessed. Before looking for answers to questions such as general traffic or other sites that connect more often, it is essential to clearly identify

the purpose and goals of the web page; thus the strategy to create more visible content for search engines and the requirements of your visitors could be permanently adapted. User statistics, page visits, bounce rate are binding metrics helping to keep up with the specifics and behavior of the audience and constantly review the content strategy, marketing or even SEO. Poor quality pages or pages that are worthless to users can dilute site relevance and affect the SEO process. All these are further arguments for which traffic monitoring tools should be included in the development strategy of any site. The use of these tools definitely leads to a better understanding of the audience, to

strengthening the position in the online environment and - having a lot of transparency and a much more

comprehensive perspective on our own site - to constantly improving sales, information and communication tactics.

### **References**

- [1] [https://www.researchgate.net/publication/271447580\\_Google\\_Analytics\\_-Case\\_study](https://www.researchgate.net/publication/271447580_Google_Analytics_-Case_study).
- [2] <https://www.tandfonline.com/doi/full/10.1080/19322909.2016.1175330>.
- [3] <https://analytics.google.com/analytics/academy/>.
- [4] <https://searchengineland.com/library/google/google-search-console>.
- [5] <https://www.google.com/webmasters/tools/search-analytics?hl=en&authuser=0&siteUrl=http://www.armyacademy.ro/>